

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method for determining instructions for handling a flexible instrument comprising the steps of:

parameterizing the flexible instrument according to a plurality of parameters for handling the instrument;

determining, pre-operatively, at least one instrument configuration, wherein the configuration describes at least one parameter for aligning a tip of the instrument with a target; and

determining instructions for aligning the tip of the instrument with a target according to the configuration.

2. (Original) The method of claim 1, further comprising determining a digital model of a flexible instrument.

3. (Original) The method of claim 1, wherein the step of parameterizing further comprises determining an instrument length.

4. (Original) The method of claim 1, wherein the step of parameterizing further comprises determining a shaft rotation of the flexible instrument.

5. (Previously Presented) The method of claim 1, wherein the step of parameterizing further comprises determining an angle of deflection of the tip of the instrument.
6. (Original) The method of claim 1, wherein the step of parameterizing further comprises determining a tool length.
7. (Original) The method of claim 1, wherein the configuration comprises a value for at least one parameter.
8. (Previously Presented) The method of claim 7, wherein the configuration describes the handling of the instrument that results in docking a tool with a target, wherein the tool is coupled to the tip of the instrument.
9. (Original) The method of claim 7, wherein the configuration describes at least one parameter that docks the flexible instrument with a target.
10. (Original) The method of claim 1, wherein at least one parameter of the configuration is determined relative to an anatomical landmark.
11. (Original) The method of claim 1, further comprising the step of determining a patient model.

12. (Original) A method for determining instructions for handling a flexible endoscope comprising the steps of:

parameterizing the flexible endoscope according to a plurality of parameters for handling the endoscope given a desired task;

determining, pre-operatively, at least one endoscope configuration of the parameters, based on a predetermined patient model; and

determining instructions for handling the endoscope according to the configuration.

13. (Original) The method of claim 12, further comprising determining a digital model of a flexible endoscope.

14. (Original) The method of claim 12, further comprising the step of registering a patient to the predetermined patient model.

15. (Original) The method of claim 12, further comprising the step of identifying a mutual landmark visible in a patient and in the predetermined patient model.

16. (Original) The method of claim 12, further comprising the step of determining a configuration relative to a landmark.

17. (Original) The method of claim 15, wherein the landmark is a carina of a tracheobronchial tree.

18. (Previously Presented) The method of claim 12, wherein the step of parameterizing further comprises determining an endoscope length parameter.

19. (Previously Presented) The method of claim 18, further comprising the steps of:

inserting the endoscope to a landmark; and

inserting the endoscope to a target site, wherein a distance to the target site from the landmark is a difference between a total distance from a reference point to the target site and an intermediate distance from the reference point to the landmark.

20. (Original) The method of claim 12, wherein the step of parameterizing further comprises the step of determining a shaft-rotation of the endoscope according to a landmark.

21. (Previously Presented) The method of claim 20, wherein determining a shaft-rotation comprises determining an angle between a bending plane of a tip of the endoscope ~~model~~ and a target.

22. (Original) The method of claim 12, wherein the step of parameterizing further comprises the step of determining a bending angle of the endoscope.

23. (Previously Presented) The method of claim 22, wherein determining the bending angle comprises the steps of:

approximating a bending movement by a semi-circle with a given center;
determining a first vector between the center and a tip of the endoscope;
determining a second vector between the center and a target; and
determining the angle between the first vector and the second vector.

24. (Presently Presented) The method of claim 12, wherein parameterizing further comprises the steps of:

determining a tool length, wherein the tool is coupled to a tip of the endoscope;
and
determining a distance between the tip of the endoscope and a target.

25. (Previously Presented) The method of claim 24, wherein determining the tool length comprises determining the distance between an aligned tip of the endoscope and a target.

26-28. (Cancelled)

29. (Previously Presented) The method of claim 1, wherein instructions for aligning the tip of the instrument with the target according to the configuration are determined prior to inserting the flexible instrument into a patient.

30. (Previously Presented) The method of claim 1, wherein the instructions guide a blind biopsy of the target.

31. (Currently Amended) The method of claim 12, wherein determining instructions for handling the endoscope according to the configuration are determined prior to inserting the flexible ~~instrument~~ endoscope into a patient.